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ABSTRACT

That the emergent literacy perspective is gaining influence in the United States as a way of studying children's literacy acquisition. This report interprets emergent literacy research in light of the Vygotskian theory of learning and development. First, the report compares the emergent literacy perspective to the more traditional reading readiness perspective, then it describes the Vygotskian perspective and applies it to emergent literacy. Finally, it suggests how the Vygotskian model of learning and development can be applied to promoting literacy acquisition in early childhood programs and instruction. (Eighty-seven references are attached.) (Author)

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Jana M. Mason
Shobha Sinha
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September 1992

Center for the Study of Reading

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174 Children's Research Center
51 Gerty Drive
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College of Education
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174 Children's Research Center
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Abstract

The emergent literacy perspective is gaining influence in the United States as a way of studying children's literacy acquisition. This report interprets emergent literacy research in light of the Vygotskian theory of learning and development. First, the report compares the emergent literacy perspective to the more traditional reading readiness perspective, then it describes the Vygotskian perspective and applies it to emergent literacy. Finally, it suggests how the Vygotskian model of learning and development can be applied to promoting literacy acquisition in early childhood programs and instruction.

EMERGING LITERACY IN THE EARLY CHILDHOOD YEARS: APPLYING A VYGOTSKIAN MODEL OF LEARNING AND DEVELOPMENT

Research in education has focused in the last decade on the processes of learning: metacognition, strategies for learning and remembering, planning, questioning, and problem solving. Most of this research centers on what children do to learn and how teachers can guide children's educational experiences. An entire issue of the *Elementary School Journal* (1988) has been devoted to these aspects of learning and teaching. These areas likewise have been discussed by Brown, Collins, and Duguid (1989), who propose the term *situated cognition* to describe them. Similarly, Rogoff (1990) has explained the use of *mediated learning* approaches. Either explicitly or implicitly, most of this research draws on the theoretical perspective of Lev Vygotsky and includes the role of the teacher or tutor and the cultural milieu for learning.

Vygotsky's theory entails social constructs of development and provides an explanation of how changing social interactions between learner and tutor--where the tutor could be a parent, teacher, or more knowledgeable child--lead the learner toward proficiency. The theory is articulated in his book *Thought and Language* (1934/1986) and, to a lesser extent, in the book compiled after his death, *Mind in Society* (1978); it is also discussed by Kozulin (1990).

Recent educational applications of Vygotsky's work, found in Moll (1990) and Rogoff (1990), explain learning and instruction principles. For example, (a) adult modeling and coaching processes, or how to learn something replaces teacher-directed instruction; (b) *scaffolding* the learning environment, or setting up instructional situations that allow learners to succeed as they advance toward higher levels of understanding; and (c) working within the student's "zone of proximal development," which means providing instruction that spans the region in which a learner can advance both with and without help. Moreover, settings for learning and instruction are considered in terms of social interactions to support realistic or "authentic" settings and in terms of student opportunities to explore, direct their own learning, and work in collaboration with one another under the support and guidance of the teacher. These constructs seem to be replacing the traditional emphasis on teacher-directed learning, which features incremental steps to learning, as well as drill-and-practice routines. In many respects, then, time-honored early childhood educational principles that have featured child-directed exploration, adult-guided learning, and cooperative learning through peer interactions are coming into fashion for the education of older children.

Unfortunately, at this same time, greater numbers of kindergarten teachers are turning back toward traditional, teacher-directed instruction (Kliebard, 1986). Such a development may be a result of research suggesting that more academic kindergarten programs can be beneficial, particularly for educationally disadvantaged students (Pallas, Natriello, & McDill, 1989), and could lead to a palliative or "quick educational fix" using traditional instructional techniques (Walsh, 1989). Misunderstandings arise about how to foster effective, informal educational approaches when questions are raised about the effectiveness of socially based early childhood programs, such as Head Start (Datta, 1986) and whole language kindergarten programs (Evans & Carr, 1985; Stahl & Miller, 1989). Ironically, the urgent need for early education could turn kindergarten teachers away from the very principles that the educational research community has begun to appreciate and apply to older children's instruction.

This report articulates the view that emergent literacy constructs ought to be framed by a Vygotskian model of learning and development. In the preschool and kindergarten years, children acquire literacy principally through exploration and adult support, which does not preclude adults from fostering children's interest but also does not lead to direct instruction. Our aim is to show how emergent literacy constructs could be embedded within the rubric of a literacy-rich early childhood program.

A major problem regarding emergent literacy is its inadequate tie to theory. As Clay (1979b) concludes, "If teachers are to generate individual programs to meet particular needs, and if the matter of strategies for processing information is critical for some learners, then this must be written down in a way that enables teachers to go easily from behavior signals, through theoretical constructs, to programs" (p. 170). Constructs of emergent literacy--some aspects of which have been termed *beginning reading, reading readiness, prereading,* or *early reading*--have long been atheoretical. Authors in the three volumes edited by Resnick and Weaver (1979) began to articulate connections to a cognitive-learning perspective, but most research has focused on descriptions of the constructs. For example, Mason and Allen's (1986) review of emergent literacy only briefly touches on theory; Sampson's (1986) work describes only the occurrence of literacy; and the Sulzby and Teale (1991) review, although embedding a Vygotskian perspective in the descriptions, devotes only one separate paragraph to it.

We would argue, with others (e.g., Coltheart, 1979; Durkin, 1987a; Mason, 1984; Teale & Sulzby, 1986), that the acquisition of reading ability has, for most of this century, been misunderstood. This misunderstanding has led to extreme positions regarding educational support for literacy. For example, believing that children might be pressed by adults to learn at too early an age (Elkind, 1981) has led some educators to reject all support for literacy before first grade. Unfortunately, this belief builds on the erroneous assumption that children cannot develop reading concepts until a certain maturation level is reached. This belief, which Walsh (1989) argues is mythical and sentimental, was given credence in 1940 by an influential physician, Arnold Gesell, who wrote that

> Reading is a complex achievement, which came late in the cultural history of the race. Why should it not come with difficulty and delay for countless children who for reasons of maturity and inheritance have insufficient command of basic coordination of eyes, hands, speech perception, and comprehension at the age of 6 years? . . . It is most significant that many of the early reading difficulties would vanish if the natural processes of maturation were given a chance to assert themselves. (pp. 312-313)

Gesell's conclusion was directly countered by Clay (1979a) who devised Reading Recovery, a successful program developed in New Zealand that provides intensive tutoring for first-grade children who are at risk of reading failure. Clay asked the following:

> Do we have any evidence of accelerated progress in late starters? There may be isolated examples which support this hope, but correlations from a follow-up study of 100 children two and three years after school entry lead me to state rather dogmatically that where a child stood in relation to his age-mates at the end of his first year at school was roughly where one could expect to find him at 7:0 or 8:0. This is what one would expect if learning to read is dependent on the acquisition and practice of a complex set of learned behaviors, and not the product of sudden insights. (p. 13)

In the United States, Juel (1988) and Mason, Dunning, Stewart, and Peterman (1991) reached the same dismal conclusion--poor readers in first grade remain at the bottom of the class in later grades. Thus, waiting for low-performing children to mature denies them the opportunity to learn about literacy concepts before they are too far behind their peers. Indeed, recently constructed instructional interventions in kindergarten and first grade have improved children's later reading (e.g., Bradley & Bryant, 1983; Cunningham, 1989; Lundberg, Frost, & Petersen, 1988; Mason, Kerr, Sinha, & McCormick, 1990; McCormick & Mason, 1989; Phillips, Norris, Mason, & Kerr, 1990; Pinnell, 1989).

We believe that a way out of this theoretical conflict is for educators to learn about and apply a Vygotskian model to literacy development. Before explaining how it can be applied, we contrast the traditional perspective, reading readiness, with emergent literacy, a perspective that is gaining influence on early reading instruction in the United States. We then present Vygotsky's general model and apply

it to basic constructs of literacy development. We complete the report by suggesting how early childhood educational principles and the roles that teachers play can be modified through application of the Vygotskian model to foster literacy for young children.

A Reading Readiness Perspective

Although we are primarily interested in the new theoretical position of emergent literacy, we would like to discuss briefly the earlier position of reading readiness. Reading readiness theory, though undergoing several changes in its application, has remained a most influential theory in the United States. However, the reason for our interest in the theory is not merely historical: Reading readiness continues to play an important role among educational practitioners.

In this section we will review its present status, its historical development and influence, and the problems with this theory that necessitated a shift to a different perspective.

Present status. Although some school districts are adopting different philosophies of early reading, and some are including literacy in the program as early as preschool, there is no reason to believe that reading readiness is a theory of the past, at least not in terms of educational practices in schools. Durkin (1987b) has found that the concept of reading readiness and related instructional practice persists in most kindergarten classrooms. She notes the influence of "Gesell-like" philosophy in the schools (p. 289). This philosophy was reflected in the developmental tests being used that emphasize the more general cognitive, social, and motor skills while excluding literacy skills, and also in the interview data obtained from the teachers. Walsh (1989) found that Gesell's (1940) philosophy was also influential among kindergarten teachers in determining the placement of children. Apart from these studies, we have reason to believe that even in school districts where emergent literacy programs have been espoused, teachers follow readiness programs, not having completely assimilated the ideas of the emergent literacy theory. They use the labels of emergent literacy, but not the constructs.

Reading readiness, with its emphasis on "waiting" until the child is ready to learn to read also appears to be attractive to scholars concerned with childhood stress. Elkind (1981) states that "learning to read is not a spontaneous or simple skill." However, in the very next paragraph he says that "the majority of children can . . . learn to read with ease if they are not hurried into it" (p. 32). It is difficult to see how this conclusion about educational practice follows from his earlier statement about the nature of reading. He gives an example of a teacher who made her students do long hours of drills and exercises to teach them to read at ages 4 and 5. Elkind notices that although the children could read fluently, they seemed to experience no pleasure in reading. Hence, he advocates waiting before giving reading instruction. It would seem that if reading is a difficult skill to acquire, the instruction should begin early and not late.

Elkind also assumes that there is only one way of teaching reading and that way is based on his observation of one teacher. There are many ways of teaching reading. It can be done, for instance, in an enjoyable manner taking the nature of the child into account. The teaching of reading need not be done in the manner Elkind observed. Formal instruction with reading readiness lessons includes rote memorization, sequential drills, and repetitive practices--and so could be more stressful.

Outline of the theory. Reading readiness theory has existed since the beginning of this century but has undergone several transformations. To outline the theory, we present a brief account of how it originally appeared and in what form it exists today.

According to Coltheart (1979), the term *readiness* was first used by Patrick in 1899. Patrick viewed cognitive development as a function of ripening and stated that "a child's powers, whether physical or

mental, ripen in a certain rather definite order . . . at the age of seven, there is a certain mental readiness for some things and an unreadiness for others" (cited in Coltheart, p. 3).

When reading readiness was first introduced in the 1900s (Coltheart, 1979), it was generally agreed that maturation was the precondition of reading readiness. Gesell (1940), who was very influential in developmental studies and early educational practices in the United States during the period ranging from the 1920s to the 1950s (Teale & Sulzby, 1986), advocated a naturalist position and believed that development was the result of maturation. Gesell was especially influential in propagating the theory of neural ripening and intrinsic growth (Durkin, 1987a). Neural ripening, Gesell claimed, determined growth not only in motor skills but also in cognitive skills. The direct outcome of this kind of position was the philosophy of "wait and see" until the child was ready for instruction. Applied to reading instruction, this theory translated into the reading readiness approach. Accordingly, educators delayed reading instruction until a child was "ready" to read, that is, until he or she possessed some prerequisite skills.

Although Gesell's biological model was widely accepted, there was controversy from the beginning about the educational implications of such a theory. Proponents of a maturational view might say, "Time is the answer--not special drills or special practice" (Coltheart, 1979, p. 4), whereas opponents recognized that merely waiting for such development is not sufficient. Coltheart provides an excellent critique of this position. Stating that a child has not learned to read because he is not ready is a circular argument. The failure to learn to read can be the evidence for not being ready.

From an instructional viewpoint too, Coltheart sees several problems with a reading readiness theory. If one believes that readiness can be influenced by instruction, then the maturational concept must be rejected. If instruction influences reading readiness, then prereading instruction will help a child learn to read, and research has shown that prereading instruction helps children who are lagging behind their classmates. Another problem with the theory is its assumption that the age when formal reading instruction begins should matter. In some countries instruction begins at age 5, in others at age 6, and in still others at age 7. If the maturational viewpoint were correct, then the countries that began instruction at 5 would have numerous cases of reading failure, whereas those that began at 7 would have few failures. This prediction has not been borne out.

In the last several decades, reading readiness concepts have undergone another change of emphasis (Durkin, 1987a; Teale & Sulzby, 1986). According to Durkin, the changes were due to concerns about the quality of American education after the launching of Sputnik and the concern for the performance of children from low socioeconomic backgrounds. According to Teale and Sulzby, changes were also driven by the shift in the discipline of psychology. Research and writings in the 1950s and 1960s by cognitive psychologists such as Bruner (1960, 1966) and Bruner, Goodnow, and Austin (1956) provided evidence that early childhood was crucial in the cognitive development of an individual. This conclusion called into question the notion of waiting for children to mature. Readiness programs now began to include activities to develop auditory discrimination and memory and visual discrimination and memory. Later, letter names and sounds, word recognition, and some general skills were added (Teale & Sulzby, 1986).

Critique of the theory. When trying to understand the influences of different psychological movements on reading readiness, it is interesting to note how divergent movements have influenced its instructional practices. In the earlier phase of the movement the major influence was of a maturational viewpoint; later it adopted the behavioristic model of instruction while retaining some beliefs of the earlier theory. It is amazing that these contrasting models of psychology were assimilated within reading readiness practices and the contradictions were ignored. It seems that reading readiness programs have played the role of an attic where all the models may be kept without a need for finding any relationships among them.

The one thing that has been resistant to change is the belief that reading instruction has to be delayed until the child is ready for it. Although, superficially, there was still "wait" time required prior to direct involvement with reading, the time was filled with rigorous instruction in supposedly related or prerequisite skills.

Assumptions about the nature of reading and cognition. Reading has long been viewed in a dichotomous manner, with an "all-or-none" belief about its nature (Mason & Allen, 1986). Either children can read or they cannot. One reason for this belief could be misunderstandings about the nature of reading itself. Gough (1972) noted, "The Reader is a decoder; the child must become one" (p. 356). Thus, reading itself was narrowly defined in terms of an ability to decode. By this definition, a child who knows about other aspects of reading but who cannot decode is viewed as a nonreader, or a "Stage 0" reader, according to Chall (1983). Second, transfer was assumed between skills without necessarily any scientific basis. For instance, even skills like crawling, hopping, and skipping were supposed to indicate readiness in reading. This suggests that maturation in sensorimotor skills is assumed to transfer to reading skills. Third, it was assumed that general cognitive skills transfer to reading skill: If children were trained in the general cognitive skills, they would acquire reading readiness constructs. There is little evidence, however, that children develop reading skills from general cognitive and motor skills, while there is much evidence that children who experience reading, even informally, do develop reading skills (Mason, 1980, 1984). That is, they learn to read, in part, through involvement in the act of reading.

Although Vygotsky's influence on developmental psychology in the United States is relatively recent, Piaget has been a familiar figure here for several decades. Superficially, the "wait and see" aspect of reading readiness theory might seem to be compatible with Piaget's theory, at least his earlier and more well-known theory, which viewed the child as being impervious to experience (Vygotsky, 1934/1986). Yet research methodology and instruction in reading readiness has almost nothing in common with his work. Piaget demonstrated that the child is an active constructor of knowledge and is capable of observing and theorizing about his environment. His research methodology tried to uncover the thinking processes of children. Had this view been applied in early reading, then the dichotomous nature of reading would have been questioned, and it would have been evident that a child can form ideas about reading very early in life.

From the Vygotskian perspective, too, the reading readiness theory contains several flaws. First of all, Vygotsky has criticized the biological model of development because it does not do justice to the "uniquely human" (sociocultural) forms of behavior. He believes that development occurs in two interactive but qualitatively different lines. There are elementary processes that are biological in origin and there are higher psychological functions that are sociocultural in origin. The latter are not "biologically given" but culturally acquired (Vygotsky, 1978). So, from this perspective, it would seem that Gesell viewed development in its more elementary form by seeing it as a function of neural ripening. Basing reading development on Gesell's model forces one to follow a simplistic model of development for reading, which is, in reality, a sophisticated and culturally acquired skill.

The second critique from a Vygotskian perspective concerns the idea of waiting until a child reaches a certain developmental level. Such an idea entails the inherent assumption that learning and development are independent of each other. According to Vygotsky (1978), learning, rather than development per se sets in motion a variety of developmental processes. So, by waiting, adults do not take advantage of the child's possible development capacities and hence may delay development.

An Emergent Literacy Perspective

Although there have been objections to the reading readiness concept from the beginning, they have become more apparent in research and theory building in the last 15 years. A principal reason has been

the perspective termed *emergent literacy*. In this section, we outline the present status of emergent literacy research and practice, the historical context in which it was formed, and its major characteristics as a theory.

Most researchers studying literacy acquisition now accept the paradigm of emergent literacy. This is reflected in the vast numbers of papers written on this topic as well as several major reviews (e.g., Mason & Allen, 1986; Sulzby & Teale, 1991). Publishers and researchers have noted enthusiastic responses for this perspective from teachers and school administrators. Mason et al. (1990), for example, were invited to participate in research in a school district that was implementing an emergent literacy program at the preschool level (Early Start) and at the kindergarten level. However, to date, there has been no clear cut pattern of change in our schools, or if there has (been), it has not been documented. If we review Durkin's (1987b) or Walsh's (1989) studies, then, indeed, it seems that much of the classroom practice is based on reading readiness philosophy, and that is in a very warped form.

Reading readiness was accepted more or less uncritically from the beginning of this century, and it was not until the 1970s that readiness was presented with a "unified challenge" (Teale & Sulzby, 1986, p. xiv). Then a proliferation of studies challenging both behaviorist theory and the notion of neural ripening appeared. Notable examples of early research and application to classroom programs have been published on the subject (e.g., Allen & Mason, 1989; Clay, 1979a; Mason, 1989; Sampson, 1986; Schieffelin & Gilmore, 1986; Teale & Sulzby, 1986). Other significant books are based on single pieces of research (Bissex, 1980; Ferreiro & Teberosky, 1979; Heath, 1983; Soderbergh, 1977). All these studies shared the following shifting perspective:

-- Literacy emerges before children are formally taught to read.

-- Literacy is defined to encompass the whole act of reading, not merely decoding.

-- The child's point of view and active involvement with emerging literacy constructs is featured.

-- The social setting for literacy learning is not ignored.

The term applied to this type of research is *emergent literacy*. Coined by Clay (1979a), the term gives legitimacy to children's literacy behaviors but still indicates a difference from conventional reading behavior (Teale & Sulzby, 1986) and provides a way to integrate reading and writing (Mason & Allen, 1986) and to broaden its focus. For example, although decoding is a necessary component of learning to read, it should not be the only measure of beginning reading. Knowledge about directionality, reading print in context, the ability to distinguish print from other graphic forms, understanding the function of print and that the print has meaning, pretend or invented reading and writing, and shared reading and writing all constitute aspects of early literacy development of children that need to be considered as well.

Another noticeable effect of the shift in perspective about literacy acquisition was the adoption of an active-constructive role of the child. Clay (1975) and Harste, Woodward, and Burke (1984) collected the scribblings of children to study their changing knowledge about representing print. Mason (1980) studied young children's attempts to read, spell, and remember printed words to understand the strategies they use. Read's (1971) research in invented spelling led to studies about developmental changes in children's phonological awareness and knowledge about letter-sound correspondences. To approach understanding children's use of mental strategies by studying children's responses is central to both Piaget's and Vygotsky's perspectives about child development. Piaget studied children's attempts and mistakes in order to assess stages of development and reasoning. Vygotsky described children as active constructors of their language and literacy. Although several researchers emphasized the natural way in which children learn to read (e.g., Goodman & Goodman, 1974), a close inspection of the so-

called "natural" reading would reveal that a plethora of activities--informal interactions that use literacy concepts, involvement in reading and writing, and staged opportunities for exploration of literacy materials--goes on at home under the tutelage of a parent or older sibling.

Emergent literacy researchers have also used the concept of interaction implicitly in their research, for instance, while discussing story reading to children or in shared reading (Mason, Peterman, & Kerr, 1989; Sulzby & Teale, 1991). These studies have been descriptive in nature, focusing on the literacy construct itself and on the role played by the adult; accordingly, these studies often use terms like *scaffolding* and the *interactive nature of learning*.

Vygotskian theory offers a very important framework for studying and applying adult-young child interactions in shared literacy activities. The zone of proximal development focuses not only on the completed level of development (the stage of development where the child can solve the problem independently) but also on the expected level of development where the child solves a problem with the help of an expert. The difference between the completed and expected level is the zone of proximal development. According to Vygotsky (1978), "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized they become part of the child's independent developmental achievement" (p. 90).

Most emergent literacy research is compatible with this viewpoint. For instance, an adult reading a story to the child is functioning in the child's zone of proximal development. In this process, there are things that the child may already know (e.g., the concept of a story, pictures and their relation to the story, or picture-print connections). Teaching to the level for which the child is "ready" would be, according to Vygotsky "teaching to yesterday's development" (p. 89). In areas the child has not yet reached developmentally, the adult acts as a "mediator" between the child and the text in the areas where the child cannot function alone (e.g., being able to predict, relating experiences to the text, and so on).

A Vygotskian Perspective

In 1929, Vygotsky proposed a model of development that matched the basic principles of early childhood education and suggested an appropriate way for teachers to guide and support children's learning and development. He distinguished two kinds of development, natural and cultural. Natural development "is closely bound up with the processes of general organic growth and the maturation of the child." Cultural development allows mastery not only of "the items of cultural experience, but the habits and forms of cultural behavior, the cultural methods of reasoning" (Vygotsky, 1934/1986, p. 415). Cultural development, under which literacy learning and development are explained, arises from the use of symbols to solve problems, that is, through the use of speech and actions involving more abstract representations. Vygotsky considered this concept analogous to the invention and use of tools.

When the child uses symbols, the structures that govern the child's reasoning process become more complex, though still evolving in harmony with natural development. Structural change originates with the child. Although it can't be forced on the child, as Bruner (1985) has pointed out, opportunities for the child to solve problems in the context of appropriate props and adult support can influence development.

One of the central tenets of Vygotsky's theory is that children practice skills unconsciously and spontaneously before they have conscious control over a concept. At first, that idea seems impossible. As Bruner (1985) phrased it, "How could 'good learning' be that which is in advance of development

and, as it were, bound initially to be unconscious since unmastered?" (p. 24). Bruner's answer was that the teacher or other tutor

> serves the learner as a vicarious form of consciousness until such a time as the learner is able to master his own action through his own consciousness and control. When the child achieves that conscious control over a new function or conceptual system, it is then that he is able to use it as a tool. Up to that point, the tutor in effect performs the critical function of "scaffolding" the learning task to make it possible for the child, in Vygotsky's words, to internalize external knowledge and convert it into a tool for conscious control. (pp. 24-25)

Vygotsky (1929) proposed four stages in cultural development. These can be applied to the development of reading and writing as well as to other aspects of reasoning. This nonintuitive construct of action occurring before understanding is evident in the first two stages. The first stage is the natural developmental level in which the child creates "associative or conditional reflexive connections between the stimuli and reactions" (p. 419). At this point, the child is limited by attention, interest, and memory. Movement into the second stage can occur after a more or less protracted search or, if beyond the memory resources of the child, with the assistance of an adult. In this stage, the child makes some use of symbols. The adult operates within the child's range of understanding, providing connecting links or concrete representations of concepts, maintaining the child's interest, and easing memory demands. At the same time the adult leads the child to new understandings. The third stage is marked by the child figuring out how to make effective use of symbols or tools and then practicing that discovery. Then, in the fourth stage the child is freed from external signs or symbols; the process becomes internalized. That is, its physical presence is no longer needed as the child "starts to use the inner schemes, tries to use as signs his remembrances, the knowledge he formerly acquired" (p. 427).

Vygotsky (1929) provided examples of these stages of development using arithmetical reasoning and verbal reasoning. With respect to arithmetical reasoning, he said that in the first stage, children have a natural knowledge of quantity, comparison, distribution into single objects, and so forth. In the second, they imitate adults by counting, but without knowledge of purpose for counting or how to count with fingers. With the third stage, children can count with the aid of fingers. When they can count in their minds with no props, children have reached the fourth stage of development.

Vygotsky proposed that the first stage of verbal reasoning is expressive-communicative speech. Williams (1989), in a review of Wertsch's (1985) book about Vygotsky, distinguishes the first stage from the next two in this way: "Words are extensions of the needs, interests, and desires of the child. In this early use of language, the word and the object are fused. Word meaning is not separable from the particular object indicated by the word" (Williams, p. 113). In the second stage, adults help the child expand word use and support the child's referential use. However, the child's understanding of meanings of words is not yet well-developed. In the third stage, the child realizes that words have instrumental functions, discovering that "each thing has its own name." Vygotsky (1929) refers to this insight as a crisis in development which is demonstrated by the child broadening his vocabulary in an active manner, asking what everything is called. Finally, the fourth stage is marked by a transition from external to internal speech. The child begins to use "egocentric" speech, that is, private speech of planning, monitoring, and commenting on one's own actions, a construct that is now referred to as metacognition, or thinking about one's thoughts.

Application of Vygotsky's Model of Cultural Development to Emergent Literacy

In a 1983 paper, Vygotsky argues that the "psychic functions" required for learning the basic school subjects are not mature at the beginning of schooling. As a result, teachers cannot expect children to draw exclusively on what they already know in order to progress. Reading instruction need not be

delayed, but it does need to be supported. That is, because of its complexity, reading cannot be expected to develop without assistance from others. However, the nature of assistance does not follow a reading readiness or direct instruction model. As suggested in the earlier quote from Bruner (1985), we can say that the tutor/teacher provides "vicarious forms of consciousness" until children have experienced various aspects of the concepts. That is, the tutor organizes (scaffolds) learning tasks, making it possible for children to try out strategies, and, in applying concepts to practical and increasingly more complex tasks, learn to understand how to use them *for their own purposes*.

In the following analysis, we apply Vygotsky's model to three major constructs of literacy acquisition: concepts about texts, concepts about words, and concepts about letters. We have interpreted the emergent literacy research in terms of a Vygotskian framework; however, because most of the research was carried out without reference to that model, we have had to make conjectures about some constructs to show the full set of stages of development. By interweaving Vygotsky's 1929 developmental model with researchers' descriptions of children's acquisition of emergent literacy constructs, we can explain how children's first constructs about literacy can be interpreted and then extended to early childhood instruction.

Concepts About Text

Young children acquire an understanding of various aspects of literature by listening to, telling, and acting out stories; by reciting texts that have been reread to them; and eventually by independent reading and writing (Chomsky, 1979; Holdaway, 1979; Strickland & Morrow, 1989; Sulzby, 1985; Yaden, Smolkin, & Coulon, 1989). Children also acquire concepts about the nature of literature, how one listens and remembers, reads, and writes. Thus, preschool and kindergarten activities with stories and expository texts are framed by storybook reading to children, shared writing, shared reading, story dictation, repeated reading and story dramatization (Bissex, 1980; Dobson, 1989; Dyson, 1985, 1986, 1988, 1990; Paley, 1981; Wolf, 1989).

Vygotsky's stages can be applied to concepts about texts. The first stage of development is seen in children's spontaneous use of text. Wolf (1989) observed her daughter borrowing story language in her conversations and language play, using literature concepts spontaneously. Language play was evident, for example, in the child's mimicry of storybook words and phrases such as "cheeks like roses," hair "as dark as the night," and "you shall have no pie." When helping her mother clean a shed, the child borrowed a story question when she noticed a small frog in a pot, saying, "Will you get my golden ball?" Smilansky (1990) also describes preschool children's spontaneous story construction through dramatic play: "I am the daddy, you are the mommy, and the doll is our baby." Another play activity began, "Let's pretend that this is a hospital and there are a lot of sick children here" (p. 19).

At the second stage, adults often encourage children to view their language play in new ways. Paley (1981) presents many examples of the support she provided as a kindergarten teacher in an inner city school. Here is an example of story dictation, which Paley followed by having the child act out the story so that he could move to a new level of understanding (p. 12):

> Wally's story: The dinosaur smashed down the city and the people got mad and put him in jail.
>
> Paley: Is that the end? Did he get out?
>
> Wally's prompted continuation: He promised he would be good so they let him go home and his mother was waiting.

Wolf (1989) offers examples from her own family to explain how parents' story enactment and elaboration extends children's understanding of literature. In reading the story *Little Red Riding Hood* to her daughter, Lindsey, Wolf (coincidentally named) took on the role of the wolf and encouraged her child to take on the role of Little Red Riding Hood. Then they acted out some of the story conversations (until the child stopped the enactment, exclaiming, "You're not the wolf!"). Elaborating on the child's literature play, both parents would follow Lindsey's lead, yet introduce subtle changes.

> At a tea party of Lindsey and her girlfriends, I played the part of the butler according to Lindsey's instructions. Yet, I changed the action by serving tea with a haughty British accent which the girls rapidly took up and incorporated into their own conversation. Kenny changed the object by introducing an element of reality. He brewed a pot of herbal tea, which then prompted the girls to request real sugar and cream. (p. 9)

Sulzby and Teale (1991) suggest in their review that storybook reading is a socially created and interactive activity. Because it is typically routinized in the sense that adults repeat many of the same ways of talking about a book, children can gradually take over major portions of the book talk. The routines "provide predictable, but not rigid, formats that help children learn how to participate in the activity, . . . thus helping the children complete a task that is beyond their individual capacity" (p. 732). Adults organize and control those elements of the task that at first are too difficult for the child, permitting the child to focus on those elements that are within his or her range of competency. Subsequent readings of books, as children take over more of the interactions, are not merely repetitions, but provide flexibility and variation within a framework.

Thus, there is change in the nature of storybook reading. As children become more knowledgeable about the meaning of stories, adults provide fewer explanations and interpretations of story events. However, differences in the nature of the interactions, which depend on the type and difficulty of the book, also affect interactions (Mason, Peterman, & Kerr, 1989). With very easy and predictable books, teachers may lead children to take over the reading itself. With difficult texts, they may do all the reading and ask many questions to make sure children understand the underlying concepts and vocabulary.

At the third stage of development, a child independently uses props to reconstruct aspects of the text. Wolf's (1989) examples of her child's use of props and body movement show how she has learned to express, coordinate, and extend her understanding of literature.

> For Lindsey, dramatic play meant action. At the beginning of each production, she began an active search through her reality and imagination for the props to create an appropriate visual image. Certain movements were ascribed to individual scenes, releasing the motions and emotions of a story through pantomime. Lindsey used gestures and facial expressions to signify worlds that would ordinarily be limited by words. Ultimately, the purpose of her play was the expression of theme. She made a careful selection of the roles she wished to play and enacted them again and again. In her mind and movement, she dressed like the character, moved through the character's emotions, and evoked the character's theme... In Lindsey's play, story and life met, combined, and recombined. And out of past and present, her play created possibilities for the future. (pp. 6-7)

Wolf offers the following examples. After listening to a story about a child who became an arrow to the sun, Lindsey became that story child, pointing her arms into the shape of an arrow and projecting herself forward. Similarly, when building a tower with blocks that had no doors, Lindsey explained that she and her mother could climb up using her Rapunzel-like long hair.

In the fourth stage, children are released from the use of props and pictured representations of story information. Through book reading, they gradually replace picture-directed understandings with text-directed understandings, thus acquiring more abstract representations of story ideas. The first stories that children memorize and recite, and then learn to read, are replete with helpful pictures to augment the text and replenish the imagination. They serve as tools. Gradually, children learn to read a text alone, using their imagination to picture the ideas and their reasoning processes to interpret, criticize, analyze, and synthesize. As Sulzby and Teale (1991) describe the process, "The endpoint of the process is internalization of the interaction, an ability to conduct the task independently" (p. 734).

Lartz and Mason (1988) collected data on a 4-year-old child, Jamie, who was beginning to make a transition into the fourth stage. Jamie heard the story *Danny and the Dinosaur*, by Syd Hoff, and after repeated retellings of the story, she began reaching toward text reading, trying to break her dependence on the pictures. Jamie applied her knowledge of how stories are organized, how characters talk to one another and confront and solve problems, and how picture and text information can be used to read words. She then began to take on the additional burden of using letter information, turning from her dependence on pictures as concrete representations of the story to the print itself.

An example from one page of the text depicts her attempts over eight sessions to retell the story. At first, Jamie relied simply on the picture, and then, with support from Lartz, she began to integrate text and picture with her text memory. Eventually, she came quite close to the text itself in telling the story. In the last two sessions, Jamie apparently felt confident enough about the story line to read some of the printed words, although she conceded to Lartz in the last session, "This is a hard way to read!" The following responses of her successive retellings of page 1 are from the original transcript and were not published in the 1988 article.

> Text of page 1: *One day Danny went to the museum. He wanted to see what was inside* (picture shows a little boy climbing upstairs to a large building).
>
> Session 1. Jamie: One time Danny went to the zoo.
>
> Session 2. Jamie: One time Danny went to the zoo. He wished he could have an animal but he didn't know if his mom would let him.
>
> Session 3. Jamie: One time Danny went to the zoo.
>
> Session 4. Jamie: One time Danny went to the zoo.
>
> Session 5. Jamie: One time I went to the museum. We saw lots of things there.
>
> Session 6. Jamie: One day Danny went to the m-m-museum.
>
> Session 7. Jamie: One day Dan went to the museum. He (long pause) s-start? [Lartz: What did you say here? You said wan-wanted. He wanted-] Jamie: He wanted a animal.
>
> Session 8. Jamie: One day--Danny--went--to--the--museum. He wished. . . [Lartz: to]. Jamie: to--have--my--[Lartz: What's that letter?] Jamie: My own animal a-n-i-m-a-l [spells the word *animal*].

Pappas and Brown (1987) observed similar behavior in a study analyzing a kindergarten child's three retellings of a story. They concluded that "the approximation observed in reading-like behavior cannot be explained simply in terms of rote memory. The ontogenesis of the register of written language,

instead, appears to be just as much a constructive process as we have seen in other areas of cognitive development" (pp. 174-175).

Thus, as Teale (1987) proposes,

> a child's independent reenactments of books play a significant role in the ontogeny of literacy. They provide opportunities of the child to practice what was experienced in interactive storybook reading events. Also important, however, is that independent reenactments provide opportunities for the child to develop new understandings about reading in general and about the individual book in particular. (p. 62)

Text writing can be similarly framed in terms of Vygotsky's developmental stages. Dyson (1988) presents a 2-year case study of eight children's writing, four students from kindergarten to Grade 1, and four from Grade 1 to Grade 2. She argues that learning to write is difficult because children must learn to "differentiate the boundaries between the written, drawn, and spoken symbol systems . . . . And, if it is to be a fictional world, they must distinguish as well between the imaginary world they are creating, the experienced world they are transforming, and the ongoing social world in which they are acting" (pp. 357-358).

Dyson (1988) found that changes in children's writing over 2 years depict movements across stages, although she does not discuss stages or roles played by teachers to foster movement. She found that children became

> less governed by drawing and any accompanying talk; to oversimplify, as authors of imaginary worlds, the group moved from a tendency to comment on pictures, to a tendency to observe scenes and, finally, to act within dynamic worlds. . . . [The] young authors wrestled with and, at times, got caught on the borders between differing symbolic and social space/time structures, differing worlds. To help resolve these tensions, the children found new ways to use the resources offered by these worlds (e.g., sequencing pictures to capture narrative movement; incorporating talk--dialogue--into their texts; fictionalizing self, peers, and experiences to meld the ongoing social, the wider experienced, and the evolving symbolic world in new ways. (p. 384)

Bissex (1980) demonstrated the connection between reading and writing, from letters to text reading and writing, in the analysis of her son's literacy development. At age 5, he nudged his mother with his spontaneous note "R U DF" ("Are you deaf?") to elicit her attention. As he moved into the second stage, he began trying to read labels on food packages, signs, and his own name, picking up information from his environment with help from parents. His attempts to write were encouraged, and he began to look at and try to read more words. Before he was 6, he had moved into the third stage by extended his reading and writing, noticing and commenting on letter sound patterns, and trying to read new words using letter cues as well as context. At the fourth stage, which occurred toward the end of first grade, he stopped asking his parents to read to him. He was now reading novels, comics, dictionaries, almanacs, and an encyclopedia. He also began writing for his own purposes--to tabulate possessions and keep track of personal activities. He even wrote a song book and set up his own spelling list of harder words than those given at school. In the next two years, he read factual materials to inform himself, he kept a personal diary, and with friends he set up a newspaper and made quiz booklets. Thus, from this wide range of activities and guided instruction and practice, he became able to utilize reading and writing concepts for his own purposes.

Concepts About Words

Before they read, children form concepts, not just about texts, but also about words and letters. Mason (1980) suggested three levels of word reading development based on changes in understandings about printed words from learning letters and from attempts to read, write, and remember words. Akin to Vygotsky's first stage, children's first attempts are fanciful--one child said the first word in a list he was asked to read was "Once," the next was "upon," then "atime." When given magnetic letters and asked to spell words, some place all the letters into a long line--they know that words are strings of letters, but have no idea about which letters to select. With guidance from adults, however, children soon move into a second stage as they recognize favorite words, such as their own name, and begin to write words using initial sounds they hear in words, expanding these concepts with invented spellings of word- and sentence-like segments (e.g., Bissex, 1980, reports a sign her son made: DO.NAT.KM.IN.ANE.MORE.JST.LETL.KES--"Do not come in any more, just little kids"). Eventually, they operate using conventional spelling, and on their own begin to realize the more complex morphemic structures of words.

In the first stage of word concept development, then, children usually treat print no differently from objects. Print is meaningful within the context that children see it, and each printed word is connected uniquely with something that is meaningful. From studying young children's word concept development, Ferreiro (1978) reported that in an early stage of development, children believe that only names of things are represented in texts, and that each printed word is a complete utterance. Sulzby (1986) captured this understanding when she described a child who said he could read only one word at a time, who told her, "The first word is: 'He did it in space'" (p. 226). Harste, Burke, and Woodward (1982) asked young children to "read" printed labels in and out of context. Their answers revealed an expectation that written language would make sense. For example, one child read *Crest* on a toothpaste package as "Brush teeth." Another child read *Wendy's Hamburgers* on a plastic cup as "Wendy's cup."

Also in the first stage, children's writing begins as a part of their drawings, continuing the symbolic function of representing things (e.g., scribble writing can represent writing). Children may not be attempting to encode speech, and may not realize that writing can be used to characterize speech. Harste, Burke, and Woodward (1982), however, showed that younger children were good observers of the form of print. Four-year-old children from the United States, Saudi Arabia, and Israel, when asked to write everything they could write, produced scribbles that resembled the writing from their country.

In the second stage, when guided by parents and teachers to notice and make use of printed labels, children memorize words and whole texts in books, on signs, and on labels. They realize that content words (particularly object names) are represented in written form. In so doing, they acquire requisite concepts about words in print and begin to separate the stream of speech into word units (Sulzby, 1986). They hear and separate out the beginning (alliterative) and ending (rhyming) patterns in words (Treiman, 1992). They also hear connections made between letters and words in alphabet books, they learn to recognize their own name, and they ask to have names of signs and labels read to them. These informal and indirect lessons help children to recognize printed words as separate spoken words and lead them to formulate connections between letters and sounds in words.

Soderbergh (1977), who began teaching her 30-month-old daughter to read using word cards, frequently adjusted her planned lessons according to her child's responses. For example, she found that the child had no difficulty learning concrete nouns and verbs. "To her the written words were the things, and the cards with *mormor* (grandmother), *morfar* (grandfather), *kuddle* (pillow) etc. immediately became favorites" (p. 19). However, she had great difficulty when given function words, that is, words that lack concrete referents: "So I decided to give up the book with too many functors and to write a special book myself, taking care: 1. that there were as few functors as possible; 2. that the sentences were short; 3. that the vocabulary was suited to a child of two and a half, and 4. that the story appealed to her" (p.

23). This approach, of constructing books for preschool children that are simple and meaningful, has been successfully adapted in research by McCormick and Mason (1989) for introducing written texts to at-risk children.

Children's activity at this second stage was described by Dobson (1989) in her observation of children in kindergarten classrooms. One child "finger-tracked the print so that the beginning and end of his spoken sentence coincided with the print" (p. 88). With the text, *Go, Go, Go*, one child said, "I know that one is G. And that's the first name of Graham.' I am Leslie Graham" (p. 88). But without teachers' help, few could yet integrate the letters, words, and picture cues to produce a meaningful reading.

Movement into the third stage was also observed by Dobson (1989) as she followed the children's progress in first grade. Children began building words and phrases from consonant sounds to words using sounds and words they knew, extending concepts they understood, and moving toward the use of new print concepts. Here are two of her examples:

> After 10 months at this level, on November 20 of the first-grade year [Zelko] produced a message that indicated a new level of development. He printed RABO HOS and read it as "rainbow house." Four months later he made his first attempt to read the print in a storybook word by word. . . . Once Shirley began to match letters and sounds, she continued to do so. Successive samples of her writing in the fall of first grade indicate rapid progress:
>
> 1. TWATN [There was a tornado].
>
> 2. TW--AMSLD [There was a magical land].
>
> 3. TR WZ A BTA FL HS [There was a beautiful house].
>
> 4. TR WZA BTAFL PESTD [There was a beautiful present].
> (Dobson, 1989, p. 90)

The fourth stage of word concept development is seldom discussed by emergent literacy researchers since most do not follow children's development after conventional word writing is established. Ehri (1989), however, does explain this later stage in terms of spelling:

> Spellers begin recognizing and using word-based spelling patterns when these are seen as more appropriate than phonetic spelling--for example, spelling past-tense verbs consistently with -ed rather than according to their sounds (woched rather than wocht for watched). This stage is thought to emerge after children learn the conventional spellings of several specific words and begin recognizing spelling patterns that recur across words. (p. 88)

Concepts About Letters and Letter Sounds

The first stage of letter concept development could begin when babies spontaneously make sounds--they play with the sound and feel of their own noises (e.g., bubbling, squealing, and sneezing) and are delighted when adults repeat sounds that they make. Later, toddlers are particularly attuned to sound patterns of their language and then of words when they begin to speak, which is why Soderbergh (1977) investigated the possibility that her daughter could easily learn to read at this stage. Preschool children spontaneously produce rhymes, such as the examples offered by Wolf (1989) of language sound games borrowed from texts. One time her child stomped through the house reciting, "Ducky Lucky, Goosey

Loosey, Cocky Locky, Lindsey Mindsey." She also revised rhymes to fit the occasion with, "I'm in the milk and the milk's in me. Beat it, bake it, shake it, take it."

Toddlers and preschoolers also play with ABC books, blocks, and magnetic letters and learn to name the letters just as they learn to name objects. When they are given paper and drawing implements, they may draw letters along with other objects from their world and identify words in terms of one letter. McGee and Richgels (1989) describe a child saying *K* for *Special K* cereal and *M* for *K-Mart* and *McDonald's* at age 2. They also tell about a child making a G shape (and no more) when she said that she was writing *Gitti*, *Grandma*, and *Grandpa*.

Ferreiro (1986) depicted children's first understandings of letters by focusing upon the constructive aspects rather than the forms of letters. Santiago, at age 2, used a "belonging-to rule" about letters and people's names (e.g., *R* is *Rubin*, *M* is *mommy*). But his rule was inconsistent (e.g., he used *U* for *fingernail*), and conflicts arose (he had a problem when two different people had names beginning with the same initial letter). His first solution was to accept that words in context stand for objects (e.g., word cards with pictures, labels on cars and fruit). He then made up some letters to stand for names. A whole year passed before Santiago finally asked who else a letter belonged to.

The second stage of letter and letter sound development overlaps with the first, because parents often begin assisting their child's letter learning at a very young age. Snow (1983), for example, describes reading an alphabet book with her son, aged 32 months (p. 178, part of Table 4). This portion of the transcript reveals an effective balance between informing the child while keeping him on task and letting him make comments about the task:

Child[1]	Mother
4. read dis dat book	
5.	this is a Christmas book
6. ABC book	
7.	that's an ABC book how did you know that?
8. dat's a present	
9.	where's it say ABC?
10. dis eh A	
11. dat's a present	
12.	yeah, it was a present a long time ago
13. as a present day	
14.	this says A is for angel
15.	B is for bell
16.	C is for candle and carol as well
17.	D is for
18. donkey	

(From: Snow, 1983, p. 178.)

Because letters and letter sounds are often directly taught in preschool and kindergarten, there is much research evaluating the effectiveness of letter and letter-sound instruction. Bradley and Bryant (1983) showed that letter-name instruction can be effective if children learn to hear sounds in words along with the names of the letters. Mason et al. (1990) showed that providing predictable books that preschool

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children learn to read (recite) through repeated readings with their teachers enhances letter name knowledge and later improves their reading. Also, Lundberg, Frost, and Petersen (1988) showed that introducing phonological awareness, that is, awareness of the sounds of the language, can be an effective first step. They

> started with easy listening games that included nonverbal as well as verbal sounds. A period of rhyming games followed, using nursery rhymes, rhymed stories, and games for rhyme production. Sentences and words were introduced a couple of weeks later by means of games and exercises focusing on segmentation of sentences and investigation of word length. In the second month, syllables were carefully introduced by clapping hands, first to the syllables in the children's own names, and then to other multisyllabic words in the immediate environment. Dancing, marching, and walking in place with various syllabic intonation patterns were other exercises that were common during this period. (p. 268)

Thus, there may not be one *best* method for introducing children to letters and sounds, except that it needs to be supported after children have experienced an exploratory stage.

At the third stage of letter development, children read and write, but they use props and receive some help. Letter concept understanding at this stage is best seen in children's writing, which they usually carry out in order to form words. Their attempts begin as preconventional forms--scribbling, drawing, nonphonetic letterings, to phonetic spelling and copying--before they are able to write conventionally (e.g., Allen et al., 1989; Clay, 1975, 1979a; Sulzby, Barnhart, & Hieshima, 1989). In a review by Sulzby and Teale (1991), it is apparent that young children vary in their understandings of how to write, depending in part on the task, but by the beginning of first grade, most are writing conventionally. The third stage of letter development also becomes linked with the third stage of word and text concept building, as children's constructions are directed to goals of producing meaningful and communicative messages.

The fourth stage of letter construction is completely encompassed by word and text concept development. Letter knowledge per se has no separate, conscious function, except perhaps for spelling (see Ehri, 1989, 1991; Ehri & Wilce, 1987). Letter pattern structures in words, for example, are not usually thought about consciously, though some patterns might remind readers of rules that were learned to aid spelling.

Application of Cultural Development to Early Childhood Programs and Instruction

Rounding out the theory, Vygotsky (1983) expounded on the role of the adult in assisting development.

> [It is not true that] imitation is a mechanical activity and that anyone can imitate almost anything if shown how. To imitate, it is necessary to possess the means of stepping from something one knows to something new. With assistance, every child can do more than he can by himself--though only within the limitations . . . of his development. . . [Imitation and instruction] bring out the specifically human qualities of the mind and lead the child to new developmental levels. . . What the child can do in cooperation today he can do alone tomorrow. Therefore the only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening functions. . . . For a time our schools favoured the "complex" system of instruction, which was believed to be adapted to the child's way of thinking. In offering the child problems he was able to handle without help, this method failed to utilize the zone of proximal development and to lead the child to what he could not yet do. Instruction was oriented to the child's weakness

> rather than his strength, thus encouraging him to remain at the preschool stage of development. (p. 268)

Dyson (1990), however, cautions educators not to conceive of scaffolding too narrowly, recommending replacing the notion of *scaffolding* with a *weaving* metaphor. She explains:

> To accommodate the rich diversity of children's ways of exploring and using written language, the classroom itself should allow diverse kinds of experiences, including space for children to follow their own agendas and for teachers to guide them toward new possibilities. But despite the importance of a range of language and literacy-rich opportunities, providing opportunities is not enough to support children's literacy development, nor is helping children within the context of each activity. For it is through weaving together experiences in and out of school that children create comfortable learning places for more skillful literacy efforts. Thus, a rich diversity of experiences--composing, dictating, exploring, labeling, storytelling and playing--enriches our own decision-making, as well as the children's literacy learning. Observing children across a range of learning spaces allows us to discover the texture of individual children's resources and to help them make connections among them. (pp. 211-212)

Keeping Dyson's caution in mind, we draw on Vygotsky's stages in our proposal for four instructional steps for the acquisition of literacy concepts. The four steps weave together home and classroom language, literacy, and play activities through mediation by the teacher who understands how to accompany observation of children's entering and changing levels of competency with support and guidance toward new learning and cultural development.

The first stage, *natural involvement* or exploration, requires teachers to provide opportunities for students to explore literacy activities and events. Although the settings for learning can vary in their authenticity, that is, in their similarity to real-world tasks, the more realistic they are the more likely students are to become effective learners. Thus the term, *situated learning*, or learning in which tasks are embedded in everyday activities, is often employed. When a task has a realistic setting, it is more meaningful to students and a teacher can more easily observe how students are exploring, what they are interested in, and how proficient they are naturally. Teachers also have better ideas about how to encourage movement to the second stage, what to model, and how an activity could be introduced or organized.

The second stage is *mediated learning*, or assisted learning in which there is support by an adult. To move children into and through the second stage, teachers guide students' participation in new activities. They establish learning environments in which students try out the skills under their tutelage, and they help them become self-directed learners by using instructional approaches that encourage students to operate on their own. Two approaches, *modeling* and *coaching*, are effective. As new topics or procedures are introduced, teachers model the process to be learned and then coach students as they try out the techniques of thinking about and monitoring the processes.

To help children focus on their own mental operations so they can figure out how to think through the steps on their own, teachers assist children in identifying problems and using effective strategies. For example, memorizing a list of printed words may not entail strategies for recognizing the same words in a story or new, related words, so is not as important as knowing how to choose what words to remember, what they mean, and how to use the words in other settings. Thus, strategies for learning, remembering, and solving problems and techniques for carrying out self-directed learning are the instructional goals, even for beginning readers.

The third stage is *external activity*, or child-directed learning and practice with the aid of props and occasional coaching by an adult. At this stage children attain performance independent of the constructs practiced and they gain self-confidence and control of the concepts, and teachers can arrange varied opportunities for working independently and in collaboration with peers.

Internal or independent activity, the fourth stage, occurs when students can link learned concepts to other, related concepts, test out general principles, and operate without help of signs or expert others and so begin to have an internalized process of thinking, reasoning, and solving problems. Eventually, then, students carry out tasks unaided, and through thinking and talking about the concepts, achieve a more general understanding of the procedures and underlying concepts.

General Implications for Early Childhood Education

Considerable disagreement remains among researchers working within the emergent literacy framework about the need to instruct children. Part of the problem may be with the term *instruction* and the images it conjures up. Those who object to *instruction* and advocate natural literacy learning would not object to *shared reading and writing, choral reading*, and so on. In this report, we have relied on the terms *scaffolding, mediation*, and *assisted learning* instead of *instruction* because they suggest joint activity and support rather than directing. The mediating role is also compatible with Vygotskian theory and allows us to recommend a range of adult-child interactions. We believe that classroom practices ought to include informal learning opportunities, exploration by children, interactive and shared learning events, and opportunities for children to weave together various aspects of tasks, concepts, and their own background knowledge and interests.

Classroom activities should vary in their structure, purpose, and focus. They should be functional (useful to children), realistic (meaningful to children), flexible (able to meet needs at various levels of development), shared (able to provide optimal opportunities for children to help and learn from one another), and holistic (involving the initiation, process, and completion of an event). Finally, effective communication patterns should be developed and maintained between teachers and parents so that caregivers at school and home have a coordinated program for each child.

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